

REMARKS

Claims 1, 2, 9, 10 and 17-40 are pending in the present application.

Claims 1, 2, 9, 10 and 17-40 have been rejected

Claims 22 and 34 have been amended as shown above.

Claims 1, 2, 9, 10 and 17-40 remain in the application.

Reconsideration of the claims is respectfully requested.

35 U.S.C. § 101 – NON-STATUTORY SUBJECT MATTER

Claims 1, 2, 9, 10 and 17-40 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Office Action asserted that the methods of the claims describe only an algorithm, without producing a useful output. This rejection is respectfully traversed.

As initial evidence that Claims 1, 2, 9 and 10 are directed to statutory subject matter, the Applicants note that Claims 1, 2, 9 and 10 were previously allowed in the Office Action Summary mailed December 13, 2004.

Furthermore, the Applicants respectfully submit that the methods of independent Claims 1, 9, 17, 26 and 35 do, in fact, produce a useful output. The useful outputs of the performance of the methods of the claims are as follows:

- Claims 1 and 17 determine an estimated capacitance of a circuit component,
- Claims 9 and 26 determine an estimated length of a conducting plate included in a capacitor having a specified electrical capacitance, and

- Claim 35 simulates the electrical behavior of an electronic circuit, including determining an estimated capacitance of a component of the electronic circuit.

That such estimations of capacitance and circuit component dimensions are useful results is further evidenced by the specification of the present application.

There is a recurrent need to determine the electrostatic interaction capacitance between two conducting parts when designing integrated circuits. The determination is carried out in particular to characterize capacitors used in circuits, or to characterize electrostatic interactions between various conducting parts such as, for example, electrical signal transmission tracks. This is because such interactions introduce delays in the electrical operation of the circuit incorporating these conducting parts. In the case of electrical signal transmission tracks, these delays reduce the signal transmission rate. *Application, Page 1, Lines 15-28.*

The increasing integration of electronic circuits fabricated at the present time consequently requires accurate methods of estimating capacitances. *Application, Page 3, Lines 22-25.*

That is, the capacitance of circuit components introduces delays into the operation of the components and reduces the transmission rate of signals conducted through the components. It is thus useful for a designer of an integrated circuit to calculate an estimated capacitance of a proposed circuit component. It is also useful for such a designer to calculate an estimated dimension for a circuit component that will have a desired capacitance. It is also useful for such a designer to simulate the behavior of a circuit using an estimated capacitance for a component of the circuit.

Thus, methods of estimating the capacitance of a proposed circuit component, estimating the length of a circuit component required to achieve a desired capacitance, and estimating the capacitance of a component as a step in simulating the electrical behavior of a circuit including the component are clearly useful in the design of integrated circuits. While Claims 1, 9, 17, 26 and 35

(and their dependent claims) recite mathematical algorithms, they do so in the context of claiming methods that produce useful outputs: estimated capacitances, estimated circuit component dimensions, and simulations of the electronic behavior of an electronic circuit.

Furthermore, the claims of the present application apply a mathematical algorithm to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle, which the Federal Circuit held “comfortably falls within the scope of § 101.”¹ As such, the Applicants respectfully submit that Claims 1, 2, 9, 10 and 17-40 are directed to statutory subject matter and request the withdrawal of the rejection under § 101.

Claims 22 and 34 were additionally rejected under § 101 as directed to computer programs—that is, functional descriptive material that does not fall into one of the defined statutory groups. In response, the Applicants have amended Claims 22 and 34 to recite a computer readable medium having stored thereon computer executable instructions for performing the steps of a method. The Applicants respectfully submit that amended Claims 22 and 34 are now directed to statutory subject matter and request the withdrawal of the rejection under § 101.

¹ AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999).

SUMMARY

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at wmunck@munckbutrus.com.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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